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ABSTRACT

In Scotland, vocational education at the professional level takes place in colleges and universities and at the craft and technician level, in further education colleges. Most of the further education/higher education curriculum has been modularized. The following benefits of modularization are claimed: rationalization of resource provision; accommodation of credit transfer; accreditation of experiential learning; tailoring of programs for corporate customers; facilitation of course redesign; improved access for part-time students; allowance of a significant degree of student choice; and improved feedback to students on their performance. Subjective perceptions of one educator's experience indicate that rationalization of provision and student choice appear to be less in evidence than predicted, but most of the remaining advantages of modularization seem to have been delivered. The main criticisms center on three general themes: fragmentation of the curriculum, individualization of the educational experience, and challenges to program management. The Scottish School of Further Education (SSFE) provides a program of 40 30-hour modules for vocational educators working in colleges of further education. It copes with program management by using a computer for student recordkeeping, two full-time office staff, and standard letters. Individualizing of the learning experience does not seem to be a major problem in practice. (YLB)

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MODULARISATION AND VOCATIONAL EDUCATION IN SCOTLAND

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Introduction and Background

We have an expression we use on the other side of the Atlantic when we seek to describe a quite gratuitous or redundant expenditure of effort. We talk about "carrying coals to Newcastle". The city of Newcastle in the north-east of England is set in the heart of coal-mining country, so transporting coal to that area would be a fairly worthless exercise. My fear is that delivering a paper in the U.S. on the modular curriculum may be a bit like "carrying coals to Newcastle". After all, the modular, credit-based curriculum has been the mainstay of the North American education system for most of this century. My hope is, however, that a resume of the ongoing debate on modularisation in Britain may be of interest to American educators if only as a rather quaint case-study that may help to illuminate their own educational history.

If you will bear with me, I would like to examine some of the issues that have arisen in the debate about modular courses or programmes in Higher Education and in Vocational Education. As I am, myself, the Course Director of a programme which is both in "Higher" and in "Vocational" education, I will illustrate some of these issues by setting them in the context of my own courses.

But the first rule when speaking about education in another country is to define your terms. What do the concepts "Higher Education" and "Vocational Education" mean in my country? Well, "Higher Education" refers to the curriculum which is delivered in University-level Institutions. We have eight Universities in Scotland and a further eighteen colleges (including my own) delivering degree-level courses. "Vocational Education" at the professional level takes place in these Colleges and Universities (which are all funded by Central Government); at the craft and technician level, it takes place in Further Education (FE) Colleges which are funded and administered by local education authorities.

One further piece of preliminary explanation may be required here about educational provision in the United Kingdom. There are in fact three separate education systems within the UK - one for England and Wales, one for Scotland and one for Northern Ireland. That is important to understand, because much of the current debate about the vocational curriculum in particular takes place, in Scotland, within a "nationalist" perspective. There is a desire, in other words, to preserve what is seen as the distinctiveness of the separate Scottish system.

What the Scottish education system looks like is something like the following. There is a relatively underdeveloped pre-school sector; a universal and compulsory primary school sector for ages 5 to 12; and compulsory secondary schooling (mainly in comprehensive schools) to age 16. Thereafter, students may continue in secondary school to age 18; enter non-advanced (vocational) further education at an FE College; or - of course - enter employment. From about 18 years, students may progress either from school or from non-advanced Further Education into Higher Education or into advanced Further Education programmes.

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Finally, in this introductory section, let me explain where I fit in. The Scottish School of Further Education is part of the Higher Education system, which exists largely to provide staff development for teachers in the Further Education Colleges. We provide both an initial teacher-training course and a range of post-initial or post-qualifying training programmes. My responsibility is for these post-initial activities. (1)

Modularising the Further Education/Higher Education Curriculum

According to one recent estimate, around two-thirds of the Higher Education courses in the United Kingdom are now modular. (2) It is also generally claimed that virtually the whole of non-advanced and advanced FE in Scotland has now been modularised. This latter process began in 1983 when the Scottish Education Department moved to set up a completely new modular National Certificate programme to replace all existing non-advanced FE courses, and was taken further in 1988 when the decision was taken similarly to modularise all advanced FE provision. (3)

Why? In the first place we had a Conservative Government committed to making economies in educational expenditure. At a time when demographic change brought the prospect of falling student numbers, modularisation offered rationalisation of resources. Where, for example, an FE College was teaching mathematics as an integral part of ten different courses ("mathematics for carpenters", "mathematics for mechanical engineers" and so on) it would henceforth be able to economise on staff, teaching resources and even accommodation by offering a series of "context-free" mathematics modules available to a whole range of student groups. This rationalisation could even extend across institutional boundaries thanks to the credit transfer opportunities now made available; the course would travel with the student instead of being locked into a single school or college.

Modules were also popular with a Conservative Government because they promised to enhance employer control of the vocational education curriculum. A good deal of Government effort in recent years has gone into encouraging employers to have a more direct role in shaping vocational education. A modular curriculum should, in theory, make it easier for employers to demand courses "tailored" to their particular needs.

A third factor could be described as "vocational uncertainty". The virtual collapse of many of our traditional industries in the late 1970s and early 1980s (particularly in heavy engineering, shipbuilding, coalmining etc.), and the subsequent dramatic rise in youth unemployment, brought a new emphasis on more flexible forms of vocational education. A modular curriculum offered the chance to prepare young people not for a specific job but for a broad occupational area; to provide more accessible opportunities for retraining or "continuing professional development"; and to allow quick and easy course revision as the needs of the labour market changed.

The fourth factor was the case for student choice within programmes of study. Shifting curriculum control or course ownership away from the course provider to the course consumer was both acceptable to the political right in its consistency with a "market ideology", and to the "educationalists" lobby in that it was seen as enhancing motivation (particularly when linked with the regular feedback on performance which modules can provide), and generally ensuring that students were able to find programmes of study that suited their interests and capabilities.

Measuring the Benefits

In summary, then, it was claimed during the 1980s that modular course provision would:

- allow for rationalisation of provision
- accommodate both credit transfer and the accreditation of experiential (or workbased) learning
- permit the "tailoring" of programmes for corporate customers
- facilitate course re-design
- improve access for part-time students
- allow a significant degree of student choice
- provide improved feedback to students on their performance.

How has the reality measured up to these expectations?

Because of the comparative recency of these developments, hard evidence is still in short supply. So what I want to offer in the way of answers relies to a large extent on subjective perceptions based on my own experience, both as a close observer of developments in FE Colleges, and as the Director of a large modular course for FE teachers.

My feeling about the "rationalisation" argument is that there is little evidence thus far of significant resource savings. It is interesting that in 1984, the year that National Certificate was launched in Scotland, two senior officers of SCOTVEC - the examining body for vocational education courses - estimated that the catalogue of modules to cover the whole of non-advanced Further Education would probably contain no more that 600 modules. (4) In fact that catalogue now contains some 2700 modules. Of course, this is partly the result of the growth of new industrial and commercial sectors, but it does nonetheless suggest that the scope for rationalisation is significantly less than was previously thought.

What may be a factor here is the question of "course ownership". Teaching staff may be reluctant to make the compromises necessary if they are to accept the use, on "their " programmes, of modules developed elsewhere.

What about student choice? One writer on modular provision in Higher Education has argued that apparently "modular" courses in fact fall into three categories. There is the "single track" course, with no elective modules; the "disaggregated" course, with a core plus options arrangement; and there is the "cumulative" course, where less than 25% is prescribed and the rest optional. What determines institutional practice is the nature of its dominant curriculum. Generally **professional** courses are tightly geared to the labour market and have a low transition rate to post-graduate study. **Academic** courses are loosely geared to the labour market and have a strong transition rate to post-graduate study. **General** courses are loosely geared to the labour market and have a low transition rate to post-graduate study. "Cumulative" modular courses, with a high degree of student choice, are most likely to be found in the **general** area, and least likely in the **professional** area. (5)

In other words, the greater the influence of professional or industrial bodies, the more student choice is likely to be constrained. This has certainly been the Scottish experience with National Certificate. No sooner was the modular structure in place, than "statements of equivalence" with previous courses were being published to reassure employers. More recently, vocational modules at both non-advanced and advanced level have been grouped into SVQs (Scottish Vocational Qualifications), many of which have an elective element of less than 25%.

But if **rationalisation of provision** and **student choice** appear to be less in evidence than forecast, most of the remaining claimed advantages of modularisation do seem to have been delivered. Credit transfer and Accreditation of Workbased Learning (AWBL) are becoming more common; there is generally observed to be a high degree of course and module re-design; there is substantial evidence that modular provision is being accessed by new categories of part-time students, and students are commenting favourably on the feedback from assessment they are receiving. (6)

Acknowledging the Drawbacks

What about the drawbacks? The main criticisms currently centre on three general themes - the **fragmentation of the curriculum**, the **individualising of the educational experience**, and the challenges to **programme management**.

Fragmenting, or atomising, the curriculum has epistemological implications. Even the same collection of modules, if taken by different students in different sequences or over different timescales, will produce significantly different learning experiences. That in itself, may be no bad thing; but if one student's module "pathway" is such that there is no time for reflection, and the chosen sequence is one that allows for no cumulative accretion of understanding, then that student's experience is likely to be not only different but inferior.

What is required to ensure "coherence" is either a clear integrating ideology - which in some way permeates all the modules - or a specially designed "synoptic" or integrating assessed learning experience. If this comes near the end of the programme, then not only are students denied "permission to forget" the learning from earlier modules, but they can be given the opportunity to demonstrate the inter-relationships between learning outcomes in a context relevant to their own situations.

The second concern was with the individualised curriculum. Where there is no longer a "course cohort" travelling along an educational path together, then the practical drawbacks are that students may be socially isolated, and thus lack some of the support and encouragement of their peers as well as the stimulus of competition and the opportunities to measure their progress against that of other students. If the teacher no longer has his or her "own class", then it may be more difficult to get to know students, to help them to work together, or to weld identification with a chosen job or industry. Modularisation, in other words, can inhibit the occupational socialisation function that has previously characterised vocational education provision.

The third main focus of concern relates to the management and administrative overload that tends to result from modularisation - either directly as a result of modularisation itself, or indirectly as a consequence of the related activities that modularisation makes possible. This overload manifests itself in the areas of:

student admissions - enrolling separately for perhaps 20 modules a year, as opposed to one annual enrolment;

student record-keeping - with disproportionate student numbers: (disproportionate in the sense that a large student body may translate to only a small full-time equivalent (FTE) figure, and the programme resourced accordingly);

assessment - with implications for meetings of Boards of Examiners, and problems in ensuring variety in assessment practice;

student counselling - to assist with module selection, and to enable systematic review of student progress over a range of modules;

staff management - when there is no longer a staff team dedicated to the course as a whole, but instead a much larger group of staff with no sense of ownership of the whole modular programme;

evaluation - if every module is separately evaluated, how are these evaluations reported, acted upon and integrated with evaluation of the programme as a whole?

quality assurance - and the need to ensure comparability of standards across a large number of modules;

student representation - where there are no "year cohorts" to elect student representatives and to which student representatives can report back;

course advertising - where each module is separately promoted;

communication with students - when they are never all together in the one place;

course validation - where new modules coming on stream and module revision involve continual revalidation exercises;

credit transfer and accreditation of workbased learning - both encouraged and made possible within modular programmes;

liaison with the market - to exploit the responsiveness of modular provision;

liaison with "franchised" module providers - briefing staff of other authorities who are delivering courses on behalf of one's own institution, and monitoring their performance.

Post-Initial Courses at SSFE

Let me finish by saying something about our own modular provision at SSFE; how we try to maximise the advantages and minimise the difficulties inherent in modular provision.

Briefly, we provide a programme of forty 30-hour modules for vocational educators working mostly in Colleges of Further Education throughout Scotland. The modules are grouped under the headings of **Teaching and Learning, Curriculum Development, Educational Management, Guidance and Counselling** and **Current Educational Issues**, but course members are completely free to choose any modules from the catalogue, to undertake them in any sequence and to move through the modular programme at a rate of their own choosing. Four module credits gains a Certificate in Post-School Education, twelve credits a Diploma, and sixteen credits the degree of Bachelor of Education in Post-School Studies.

These are "Post-Initial" courses; that is, they are designed for staff who have already undertaken a course of initial teacher-training and who have two years teaching experience. In Scotland, this gives us a target market of around seven thousand potential students. At present, around one thousand of them are enrolled in our programme. Some of them are motivated by the desire for an award that will enhance their promotion prospects; others are attracted to a particular module because it relates to their personal professional development; others again are encouraged by their employers to attend a particular module because it fits with the institution's perceived staff development needs. Many in the last two groups are uninterested in accreditation - particularly since this involves quite a substantial project-based assessment exercise.

There is quite a significant degree of "outreach delivery" where an individual FE College, or group of Colleges, can muster sufficient staff to create a viable course group and our tutors will travel to deliver the module. There is also a modest amount of "franchising", by which employees of local education authorities are accredited by us to deliver modules to their own colleagues locally.

Modules vary widely in popularity, with **Basic Counselling Skills** being far and away the most popular module in our programme.

Balancing the Benefits and Drawbacks

Considering the benefits and drawbacks of modularisation listed above, how do our Post-Initial Courses balance out? We try to cope with **programme management** by using an IBM mainframe computer for student record-keeping; by utilising two full-time office staff to deal with course enrolments, recording of assessments, fee invoicing and student enquiries; and by the extensive use of "standard letters". We try to liaise with the field by maintaining a mailing list of "liaison persons" in each FE College who will be written to around four times each year. We tackle the student guidance and counselling issue by ensuring that all "first enrolments" get a "starter pack" with a Courses Handbook and a Study Skills booklet. Thereafter, on completion of four modules, each student must attend a Guidance Interview at which past progress is reviewed and future plans discussed.

Some management issues are more intractable. Encouraging staff to accept ownership of the programme has been difficult - in all cases this is a minor, but nevertheless very important, aspect of their work compared with mainstream initial training activity. This means in practice that cross-modular issues such as whole-programme evaluation, quality assurance, credit transfer and accreditation of workbased learning, market liaison, dealing with franchisees and so on, can become exclusively the responsibility of the Course Director.

The **individualising of the learning experience** does not seem to be a major problem in practice; possibly because with one-seventh of the Scottish workforce involved in the programme no course member is likely to feel totally isolated. We try to deal with the student representation issues by inviting nominations for student representatives on the Course Committee only from the relatively small group of course members who have completed four modules and are continuing on course. This is, of course, not a "group" in the sense that they all meet together at one time; but most of them will meet a number of the others fairly often as they work through the programme.

The **coherence** issue is one that preoccupies us considerably. Our view is that all our modules cohere around an integrating ideology which is:

> located in the shared experience of working in post-school education;
>
> based on a view of the reflective, self-monitoring professional.

In other words, the modules themselves are related to each other (though not in a sequential relationship) by being rooted in the context of post-school education, and the course members are in turn experienced professionals who can properly accept responsibility for ensuring the coherence of their own programmes of study.

All of them accept that responsibility, and tailor programmes of modules that fit the quite unique requirements of their own professional development needs and the staff development demands of their employing authorities. The fact that no two of our first eighteen Degree holders have identical lists of module credits on their Degree Transcripts is as clear a vindication as you could find of the value of the modular approach in continuing professional development programmes.

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